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Triplett et al.

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(54) **EXTERNAL FIXATION**

(56) **References Cited**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 63 days.

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(57) **ABSTRACT**

External fixation systems, and methods for immobilizing joints or fractured bones. An external fixation system may include one or more clamp assemblies connected to one or more rod assemblies at polyaxial joints. Each rod assembly may be length adjustable, and may include a one-way locking mechanism to provisionally lock the length of the rod assembly, and additional locking mechanisms to permanently lock the length of the rod assembly. The system may be deployed pre-assembled as a unit to immobilize a joint or fracture. Another external fixation system further includes a spanning member extending transverse to the rod assemblies. Two or more external fixation systems may be deployed in a stacked configuration on one set of bone pins to immobilize two joints and/or fractures. The systems may be provided in kits including guiding instrumentation, bone pins and pin clamping assemblies for connecting the bone pins to the external fixation systems.

Related U.S. Application Data

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CPC . A61B 17/6491; A61B 17/6483; A61B 17/66; A61B 17/6475; A61B 17/6466; A61B 17/6458; A61B 17/64; A61B 17/60
See application file for complete search history.

14 Claims, 39 Drawing Sheets

